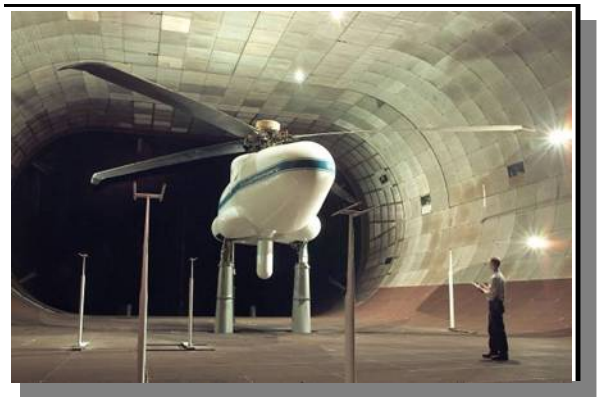
Opening Remarks

Fundamental Aeronautics Program
2008 Annual Meeting

Jaiwon Shin
Associate Administrator ARMD

Sheraton Atlanta
Atlanta, GA
October 7, 2008



ARMD Mission and Principles

The Overarching Mission of NASA's Aeronautics Research Mission Directorate (ARMD):

- To advance U.S. technological leadership in aeronautics in partnership with industry, academia, and other government agencies that conduct aeronautics-related research.
- ARMD supports the Agency's goal of developing a balanced overall program of science, exploration, and aeronautics, and ARMD's research plans also directly support the National Aeronautics R&D Policy and accompanying Executive Order 13419.

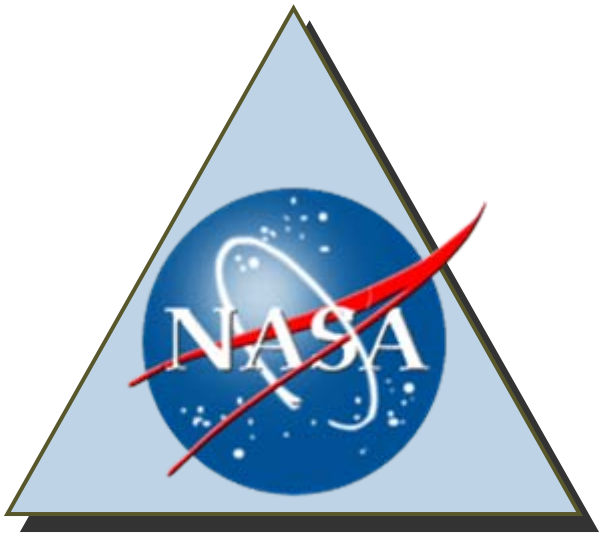
The Three Core Principles of ARMD:

- We will dedicate ourselves to the mastery and intellectual stewardship of the core competencies of Aeronautics for the Nation in all flight regimes.
- We will focus our research in areas that are appropriate to NASA's unique capabilities.
- We will directly address the fundamental research needs of the Next Generation Air Transportation System (NextGen) in partnership with the member agencies of the Joint Planning and Development Office (JPDO).

Partnership Philosophy

- Help foster a collaborative research environment in which ideas and knowledge are exchanged across all communities
- Maximize the return on investment to the taxpayer (our main stakeholder)
- Every element of our portfolio targets innovative, pre-competitive research that will advance our Nation's aeronautical expertise
- In accordance with NASA's Space Act (as amended) and the National Aeronautics R&D Policy, we will provide for the widest practical and appropriate dissemination of our research results (consistent with national security and foreign policy)

Universities
NRA/TWGs/TIMs



Government Agencies
MOUs/TWGs/TIMs

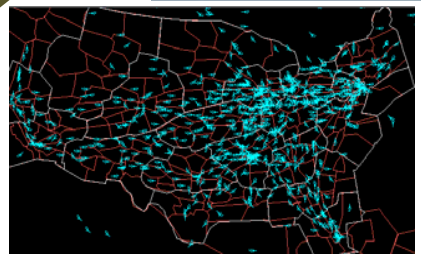
Industry
SBIR/NRA/SAAs/
TWGs/TIMs

For More Information see:
www.aeronautics.nasa.gov

Aeronautics Research Programs

Fundamental Aeronautics Program

Conduct cutting-edge research that will produce innovative concepts, tools, and technologies to enable revolutionary changes for vehicles that fly in all speed regimes.



Aviation Safety Program

Conduct cutting-edge research that will produce innovative concepts, tools, and technologies to improve the intrinsic safety attributes of current and future aircraft.

Airspace Systems Program

Directly address the fundamental ATM research needs for NextGen by developing revolutionary concepts, capabilities, and technologies that will enable significant increases in the capacity, efficiency and flexibility of the NAS.

ARMD Addresses National Aeronautics R&D Policy and Plan Objectives

- **Policy**

Executive Order signed December 2006

Outlines 7 basic principles to follow in order for the U.S. to "maintain its technological leadership across the aeronautics enterprise"

Mobility, national security, aviation safety, security, workforce, energy & efficiency, and environment

- **Plan (including Related Infrastructure)**

Plan signed by Pres. Bush December 2007

Goals and Objectives for all basic principles (except Workforce, being worked under a separate doc)

Summary of system-level challenges in each area and the facilities needed to support related R&D

Specific quantitative targets where appropriate

Executive Order, Policy, Plan, and Goals & Objectives all available on the web

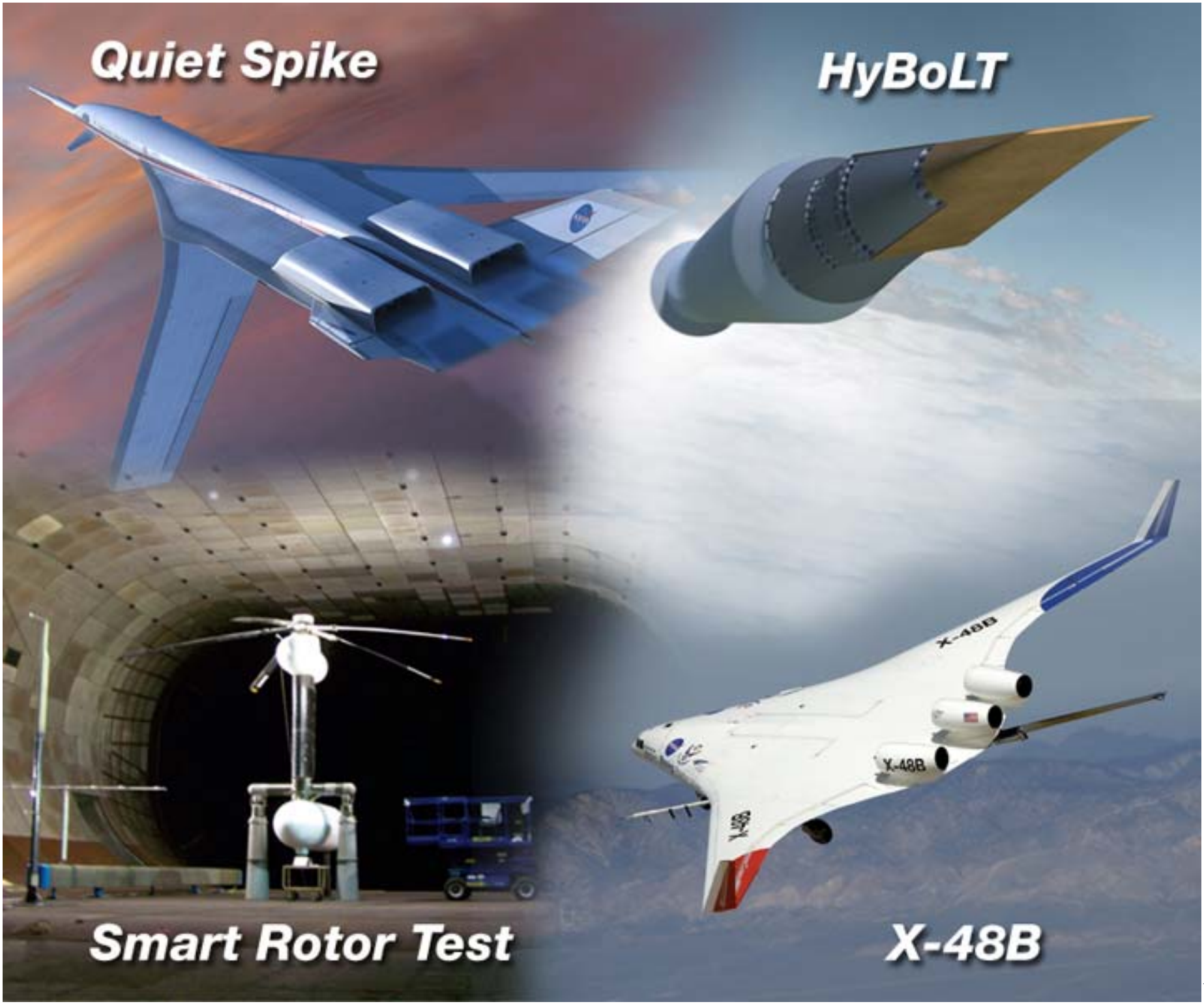
For more information visit: http://www.ostp.gov/cs/nstc/documents_reports

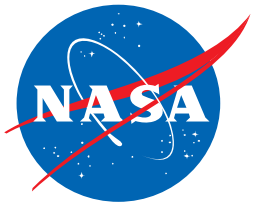
NRA Success

FUNDAMENTAL AERONAUTICS NRA PARTNERS

3TEX
Aerodyne Research, Inc.
Alliant Techsystems Inc.
Andrews Space, Inc
Applied Research Associates, Inc.
Arizona State University
Auburn University
AVETEC
AVID LLC
Ball Aerospace & Technologies Corporation
Boeing
Brigham Young University
Brown University
California Polytechnic State University
Case Western Reserve University
Cleveland State University
Collier Research and Development Corporation
CUBRC
Eagle Aeronautics Inc
Fidell Associates
Florida State University
General Electric Company
Georgia Institute of Technology
Hoh Aeronautics, Inc.
Honeywell
Huo Consulting LLC
Hyper-Therm High Temperature Composites, Inc.
ILC Dover
Iowa State University
Kulite Semiconductor Products, Inc.
LeaTech LLC
Lockheed Martin Aeronautics Company
Louisiana State University
M4 Engineering, Inc.
Mark H. Dunn
Massachusetts Institute of Technology
Materials Research & Design, Inc.
Michigan State University
National Institute of Aerospace
North Carolina State University
Ohio Aerospace Institute
Ohio State University
OptiNav, Inc.
Penn State Applied Research Lab
Pennsylvania State University
Princeton University
Purdue University
Reaction Design Inc.
ResearchSouth, Inc.
Rolls-Royce North American Technologies Inc.
Southern Research Institute
SpaceWorks Engineering, Inc. (SEI)
SPIRITECH Advanced Products, Inc.
Stanford University
Steve Miller & Associates Research
Syracuse University
Tao of Systems Integration, Inc.
TechLand Research, Inc.
Teledyne Scientific Company
Texas Tech University
U. S. Naval Academy
United Technologies Research Center
Universities Space Research Association
University of Alabama
University of Arizona
University of California at Davis
University of California Santa Cruz
University of California, Irvine
University of California, Los Angeles
University of Central Florida
University of Cincinnati
University of Florida
University of Illinois at Urbana
University of Kentucky
University of Maryland
University of Massachusetts
University of Michigan
University of Minnesota
University of Notre Dame
University of Pittsburgh
University of Tennessee at Chattanooga
University of Texas
University of Vermont
University of Virginia
University of Wisconsin
University of Wyoming
UTRC
Vanderbilt University
Vertigo, Inc.
Vibroacoustics Solutions, Inc.
Virginia Polytechnic Institute and State University
Wyle Laboratories, Inc.
ZONA Technology, Inc.

Since the inception of the ARMD ROA NRA in 2006, 1485 proposals have been received - resulting in 350 awards (and counting). Of these 902 proposals and 219 awards are from the Fundamental Aeronautics Program


Quiet Spike
HyBoLT
X-48B
X-48B
Smart Rotor Test
X-48B


NASA

Back-up

An Illustration of NextGen